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A NOTE ON KALA-AZAR

J.Dodds PRICE

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ing some resemblance to the intermittent type of Malta fever, but four of these died, and the other was lost sight of when in a desperate condition. Of the remaining twenty-three cases the intervals between the irregularly recurring intermittent fever were far longer than occurs except very rarely in Malta fever, so that if they were cases of that disease the type of fever was far milder than is seen in Europe in this non-fatal form of the disease. Yet only two of them recovered, the rest proving fatal. *We arrive, then, at the* reductio ad absurdum *that the manifold more fatal* kala-azar *yet presents, as a general rule, a far milder type of fever curve than the mildest non-fatal form of Malta fever.* Again, we have seen that once the temperature has remained normal for some days Malta fever does not recur. On the contrary, the inveterate tendency of *kala-azar*, as of all chronic malarial fevers, is to relapse again and again with frequent and often considerable intervals of apyrexia, sometimes lasting for several months in the cold weather. In my original report I wrote: "Thus there is no definite type of fever in the disease, while its duration, and that of the intervals between the attacks, differ widely, the only constant characteristic being the inveterate tendency to recur again and again until a fatal issue results." The types of the temperature curves of the two diseases then agree only in the single point that both may run a very prolonged course, although even this is as rare in fatal cases of Malta fever as it is common in *kala-azar*, which leads me on to the last point which appears worthy of discussion, namely, the death-rate and the duration of fatal cases. In my report I gave the death-rate of 200 consecutive cases of *kala-azar* on Nowgong tea gardens, which had been diagnosed and treated throughout by no less an experienced practitioner than Dr. Dodds Price, as 96 per cent. This rate was subsequently reduced to a little over 50 per cent., mainly on account of more vigorous and sustained anti-malarial treatment than before, to prevent the retrogression from which beneficial result is the main object of the present communication. Now the death-rate of Malta fever is given by Hughes as about 2 per cent., while 60 per cent. of the fatal cases terminated within one month, and 84·44 per cent. within two months, of the onset of the fever. *Kala-azar* being from 25 to 48 times as fatal as Malta fever, it should show a very much greater proportion of rapidly fatal cases if the two diseases are the same. Yet in my report I recorded the fact that the average duration from the first admission for fever to the date of death taken from 193 cases on a Nowgong tea garden was 7·4 months, the extremes being two months to three years, while the usual duration was from 4 to 9 months. These facts (not to mention many others such as the absence of joint and testicle sequelæ and the darkening of the skin, which is so characteristic a feature as to give the disease its name) taken with the extremely high death-rate and the totally different temperature curves are amply sufficient to prove the two diseases to be entirely distinct. It was, indeed, these essential differences between *kala-azar* and Malta fever, which made me consider it unnecessary to even discuss the possibility of their identity in my comprehensive report on the former affection. If *kala-azar* can be proved to be Malta fever, then the clinical history of the latter will have to be entirely rewritten. In the meantime the negative serum reactions obtained by me with the absolutely reliable microscopical method in two series of cases of *kala-azar*, the marked reduction in the mortality of the disease by steady anti-malarial treatment in the hands of Dr. Dodds Price, and the complete success of the segregation measures that Dr. Price carried out at my suggestion, with the result that his new lines with some 450 coolies have remained entirely free from the disease for five years, justify me in maintaining my original position that *kala-azar* is an epidemic malarial fever, supported as it is by no less an authority on malaria than Major Ronald Ross after an independent investigation in Assam.

NOTE ON *KALA-AZAR*.

By J. DODDS PRICE, M.R.C.S. (Eng.), L.R.C.P. (Lond.),

District Medical Officer, Nowgong, Assam.

My attention has been drawn to an article by Dr. Charles Bentley, which appeared in the September number of this *Gazette*, on some recent discoveries he has made as to the true nature of *kala-azar*.

Having examined and treated nearly 2,000 cases of the disease, and having been brought into almost daily contact with *kala-azar* for nearly nine years, may I be permitted to state my belief that the disease is of malarial origin and to give my reasons for this opinion.

I am anxious to do this, as I feel that a great deal of harm may be done by Dr. Bentley's paper if his theory is accepted out of hand, and the anti-malarial treatment of *kala-azar* dropped without further enquiry.

I must also confess to considerable surprise at one or two statements made by Dr. Bentley, and I cannot help thinking that he has allowed himself to be too easily influenced by the results of Major Semple's blood examinations. While visiting this district in April last, Dr. Bentley certainly found malarial parasites in the blood of every case of *kala-azar* I shewed him, and similar parasites were present in the blood of all the cases of *kala-azar* we examined together in Tezpur a month later. In addition, Dr. Bentley shewed me a number

of cases which he had been treating with large doses of quinine, and which he considered had benefited greatly in consequence. His results at that time agreed with mine and confirmed me more than ever in the malarial origin of *kala-azar* and the great value of quinine.

Rogers found malarial parasites in every case of *kala-azar* in the early stages, and also in the later stages of cases he was able to examine repeatedly, and Ross found them in the great majority of early cases. Why, therefore, it should appear strange to Dr. Bentley that these investigators should have omitted to discuss the possibility of the disease being analogous to Malta fever, I fail to understand. In favour of the malarial origin of *kala-azar*, I would mention that it has always been my practice to clear out of an infected line all cases of the disease and to place them in a camp some considerable distance from all contact with the outer coolie world. This, of course, necessitates the employment of a separate establishment of hotel cooks, paniwallahs and sweepers, who are attached to the camp, and at one time I frequently noticed that a number of these attendants sickened with, and even died of, *kala-azar*, among the number being three hospital assistants one of whom I lost. A rule was therefore made that every person who was brought into contact with the infected coolies should be given ten grains of quinine twice a week, and since this plan was adopted I have only had one case of *kala-azar* among the camp attendants. This case was the native compounder in charge of the camp, and he made an excellent recovery under quinine, his illness lasting four months. Now, I take it that if *kala-azar* is not of malarial origin, quinine would not be of much use as a prophylactic, and one is almost inclined to believe from the number of drugs Dr. Bentley has employed in the treatment of the disease, that he has not been sufficiently persevering in the use of quinine.

Most writers on Malta fever lay considerable stress on the fleeting joint affections met with in a large proportion of cases, and Dr. Bentley mentions joint pains in his clinical picture of *kala-azar*. I can only say in this connection that his experience does not agree with mine, for I do not remember ever having seen affections of the joints in a case of the disease.

In conclusion, I would like to add, that while in quinine we have a most valuable drug in the treatment of *kala-azar*, segregation of the sick is of the utmost importance, and where coolie lines are badly infected they must be abandoned at all cost. In this district where these tactics have been adopted, the results have been gratifying in the extreme, but the greatest care has been taken to allow none but healthy coolies and their families into the new lines.

A NOTE ON DENGUE FEVER.

By W. G. PRIDMORE,
CAPTAIN, I.M.S.,
Civil Surgeon, Bhamo.

The Burmans appear to be familiar with the disease and call it "*Toke Kwe Ana*," "*a disease which ties one together as the hands and feet, or as the ends of a bow are drawn together.*" They have a legend that it visits the country every thirty years.

The epidemic arrived in Bhamo in June last, having travelled up the Irrawaddy Valley starting in Rangoon in May and visiting Mandalay during the early part of June. It is interesting to note this following of the important trade route. It is not unlikely that the epidemic originated from the Hongkong epidemic, of which Dr. Stedman writes in the *British Medical Journal* of July 12th, 1902.

Etiology.—I regret that I have been unable to experiment with mosquitos. Dr. Graham's experiments are interesting, but far from conclusive. The extreme infectiousness of the disease and rapidity with which it spreads, are against the mosquito theory. The mosquito was certainly not answerable for the following case, the second that came under my notice.

The first that I attended, probably the first that occurred in Bhamo, arrived on June 19th from Mandalay. He was a European and was quartered over a mile distant from my quarters. My little daughter, a child of three, who had not been exposed directly to the disease, sickened on June 28th and went through a typical attack of dengue. The infection in this instance must have been carried by myself. I had heard of no other case in the town. It is not wise to over-burden the mosquito, but if, by planting a few other diseases on him, we can dispel the apathy that exists, and stimulate authorities to exterminate the pests, a blessing will be conferred.

I have diligently searched for Graham's parasite in the blood of half a dozen of my dengue patients, using unstained films, with a negative result.

Incubation.—Three days has been the average incubation period in the Bhamo cases. My third case (my wife) developed symptoms three days after the second case, whom she nursed, was well. It is difficult to judge how long a case remains infectious. In this instance the incubation could not have been less than three days. Four days after my wife's (the third case) attack I began. I myself was attacked.

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Symptoms.—Excepting natives with very dark skins the secondary rash invariably appeared on the fifth or sixth day. With a very dark skin it is easily missed.

Adenitis, a symptom which Dr. Stedman in his account of the Hongkong epidemic does not